

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) or For use in data packet transmissions between a transmitter and a receiver where a data packet includes a first type of bits corresponding to actual information bits and a second type of bits corresponding to parity bits, the information bits being more important to decoding than the parity bits, ~~and where a negatively acknowledged packet triggers a retransmission of the parity bits to be used in a subsequent decoding operation at the receiver;~~ a method comprising:

detecting an error in a received data packet;

sending a negative acknowledgment signal to the transmitter to trigger a first type of retransmission of the parity bits to be used in a subsequent decoding operation at the receiver;

detecting an absence of a lost data packet;

sending a lost signal message to the transmitter rather than a negative acknowledgment signal, the lost signal message indicating that the lost data packet was detected as not received;

in response to the sending of the lost signal message, receiving from the transmitter a first second different type of retransmission of the information bits of the lost data packet; and

decoding the first second type retransmission.

2. (Canceled).

3. (Currently Amended) The method in claim 1, wherein the ~~first second type~~ retransmission also includes a first set of the parity bits of the lost data packet.

4. (Currently Amended) The method in claim 3, further comprising:

if the decoding of the ~~first~~ second type retransmission is not successful, sending a negative acknowledgment signal to the transmitter;

receiving from the transmitter a ~~second~~ third type of retransmission including a second set of the parity bits different from the first set;

decoding the data packet using information from the ~~first~~ second and ~~second~~ third type retransmissions.

5. (Currently Amended) The method in claim 4, wherein the ~~second~~ third type transmission does not include the information bits.

6. (Currently Amended) The method in claim 4, wherein the ~~second~~ third type transmission includes the information bits and the second set of the parity bits.

7. (Currently Amended) The method in claim 1, wherein the lost data packet is detected as absent by determining that a packet with a particular identifier expected to be received was not received in an expected time period.

8. (Currently Amended) The method in claim 1, wherein the lost data packet is detected as absent by comparing a decoding result for the packet with a threshold.

9. (Currently Amended) A method of processing received encoded data packets, each encoded data packet including a first group of bits corresponding to actual information bits and a second group of bits corresponding to parity bits, where the information bits are more important to decoding the data packet than the parity bits, comprising:

decoding a received packet to produce an interim decoding result;
determining if the interim decoding result is above a threshold;

if the interim decoding result indicates an error in the received packet and the interim decoding result is at or above the threshold, sending a negative acknowledgement signal to trigger a first type of retransmission of the parity bits;

if the interim decoding result is not above the threshold, sending a lost signal message rather than a negative acknowledgement signal to trigger a second type of retransmission of the information bits of the data packet, the second type of retransmission being different from the first type of retransmission, the lost signal message indicating that the data packet was detected as absent;

receiving a first a second type of retransmission of the information bits of the data packet; and

decoding the first second type retransmission.

10. (Currently Amended) The method in claim 9, wherein the first second type retransmission also includes a first set of the parity bits of the data packet.

11. (Currently Amended) The method in claim 9, further comprising:

if the decoding of the first second retransmission is not successful, sending a negative acknowledgment to the transmitter;

receiving from the transmitter a second third type retransmission including a second set of the parity bits different from the first set;

decoding the data packet using information from the first second and second third type retransmissions.

12. (Currently Amended) The method in claim 11, wherein the second transmission third type retransmission only includes the second set of parity bits.

13. (Currently Amended) The method in claim 11, wherein the second third type transmission includes the information bits and the second set of the parity bits.

14. (Currently Amended) Apparatus for use in a transmitter which transmits data over a communications channel, comprising:

a signal processor configured to process data and generate corresponding systematic information bits and parity bits;

a combiner configured to selectively receive systematic information bits and parity bits and generate a coded data packet;

transceiving circuitry configured to transmit coded data packets over the communications channel;

a controller configured to control which bits are selected by the combiner to generate the coded data packet based on feedback from a receiver,

wherein when a negative acknowledgment signal is received, the controller is configured to send a first type of retransmission with parity bits are retransmitted over the communications channel to the receiver, and when a lost signal message is received, the lost signal message indicating that the data packet was detected as absent, or no acknowledgment signal or negative acknowledgment signal is received, the controller is configured to retransmit send a second type of retransmission with the systematic information bits over the communications channel to the receiver,

wherein the first type of retransmission is different from the second type of retransmission.

15. (Original) The apparatus in claim 14, wherein the signal processor and combiner is implemented using a turbo encoder.

16. (Original) The apparatus in claim 15, wherein the communications channel is a radio channel.

17. (Currently Amended) The apparatus in claim 14, wherein when a lost signal message is received or no acknowledgment signal or negative acknowledgment signal is received, the systematic information bits are retransmitted over the communications channel to the receiver along with parity bits originally transmitted with the systematic information bits.

18. (Currently Amended) The apparatus in claim 14, wherein when a lost signal is received or no acknowledgment signal or negative acknowledgment signal is received, the systematic information bits are retransmitted over the communications channel to the receiver along with parity bits different from the parity bits originally transmitted with the systematic information bits.

19. (Previously Presented) The apparatus in claim 14, wherein when the systematic information bits are retransmitted, and a negative acknowledgment signal is received in response to the retransmission, parity bits associated with the systematic information bits are retransmitted over the communications channel to the receiver without the systematic information bits.

20. (Previously Presented) The apparatus in claim 14, wherein when a negative acknowledgment signal is received, the systematic information bits are retransmitted over the communications channel to the receiver along with parity bits.

21. (Previously Presented) The apparatus in claim 14, wherein when a negative acknowledgment signal is received, parity bits are transmitted over the communications channel to the receiver without the systematic information bits.

22. (Currently Amended) Apparatus for use in a receiver which receives data over a communications channel, comprising:

transceiving circuitry configured to receive a coded data packet transmitted over the communications channel by a transmitter, where an initially transmitted coded data packet includes a first type of bits corresponding to actual information bits and a second type of bits corresponding to parity bits, the information bits being more important to decoding than the parity bits; and

packet processing circuitry configured to detect the absence of an expected packet and to transmit a lost signal message to the transmitter rather than a negative acknowledgement signal, the lost signal message indicating that the data packet was detected as absent, and thereafter, to decode a first retransmission of the expected packet which includes the information bits, wherein if decoding of the first retransmission is not successful, the packet processing circuitry is configured to send a negative acknowledgment signal to the transmitter, and in response, a second retransmission is received including a set of the parity bits without the information bits.

23. (Currently Amended) The apparatus in claim 22, wherein the packet processing circuitry includes:

a decoder for decoding a received data packet, and
wherein if the data packet cannot be properly decoded, a lost signal message is sent to the transmitter.

24. (Original) The apparatus in claim 22, wherein the packet processing circuitry includes:

a buffer for storing received data packet information;
a combiner for combining buffer information with retransmitted information;
a decoder for decoding an output of the combiner; and

a controller coupled to the buffer, combiner, and decoder.

25. (Original) The apparatus in claim 24, wherein the decoder is a turbo decoder.

26. (Original) The apparatus in claim 24, wherein the buffer and the combiner perform an incremental redundancy operation.

27. (Original) The apparatus in claim 24, wherein the decoder performs error correction and the packet processing circuitry further detects errors in the output of the decoder.

28. (Currently Amended) The apparatus in claim 24, wherein if the decoder output is not acceptable, the controller is configured to send ~~sends a~~ the negative acknowledgment signal to the transmitter.

29. (Canceled).

30. (Canceled).

31. (Canceled).

32. (Previously Presented) The apparatus in claim 22, wherein the first retransmission also includes a first set of the parity bits.

33. (Canceled).

34. (Currently Amended) The apparatus in claim 33 22, wherein the second transmission is received including the information bits and the parity bits.